

WHAT IS CLAIMED IS:

1. A digital camera, comprising:

an image pick-up element which can read out pixel data in a nondestructive manner;

specifying means for specifying addresses of a plurality of pixels thinned out among all pixels of said image pick-up element; and

data read-out means for reading out pixel data of said specified plurality of pixels in a destructive manner before a main exposure and pixel data of said specified plurality of pixels in a nondestructive manner during said main exposure.

2. The digital camera as recited in claim 1, further comprising a display which displays a live-view image by using said pixel data read out in said destructive manner before said main exposure and said pixel data read out in said nondestructive manner during said main exposure.

3. The digital camera as recited in claim 1, further comprising a detector which performs a blur-detection by using said pixel data read out in said destructive manner before said main exposure and said pixel data read out in said nondestructive manner during said main exposure.

4. A pixel data read-out control apparatus, the apparatus comprising:

specifying means for specifying a plurality of pixels thinned out among all pixels of an image pick-up element which can read out pixel data in a nondestructive manner; and

read-out means for reading out pixel data of said specified pixels in a destructive manner before a main exposure and pixel data of said specified pixels in a nondestructive manner during said main exposure.

5. The pixel data read-out control apparatus as recited in claim 4, further comprising a display which displays a live-view image by using said pixel data read out in said destructive manner before said main exposure and said pixel data read out in said nondestructive manner during said main exposure.

6. The pixel data read-out control apparatus as recited in claim 4, further comprising a detector which performs a blur-detection by using said pixel data read out in said destructive manner before said main exposure and said pixel data read out in said nondestructive manner during said main exposure.

7. A pixel data read-out control method, the method comprising:

specifying a plurality of pixels thinned out among all pixels

of an image pick-up element which can read out pixel data in a nondestructive manner; and

reading out pixel data of said specified pixels in a destructive manner before a main exposure and said pixel data in a nondestructive manner during said main exposure.

8. The pixel data read-out control method as recited in claim 7, further comprising:

displaying a live-view image by using said pixel data read out in said destructive manner before said main exposure and said pixel data read out in said nondestructive manner during said main exposure.

9. The pixel data read-out control method as recited in claim 7, further comprising:

performing a blur-detection by using said pixel data read out in said destructive manner before said main exposure and said pixel data read out in said nondestructive manner during said main exposure.

10. A digital camera, comprising:

an image pick-up element which can read out pixel data in a nondestructive manner;

specifying means for specifying pixels contained in a block of small area among all pixels of said image pick-up element;

read-out means for reading out data of pixels contained in said block of small area in said nondestructive manner during said exposure;

a memory which stores a fixed pattern noise table concerning said pixels contained in said block;

fixed pattern noise elimination means for performing noise cancellation processing to said pixel data of said block obtained by reading out in said nondestructive manner with reference to said fixed pattern noise table;

an adder which adds pixel data from which said fixed pattern noise is eliminated to said pixels contained in said block; and

a detector which detects a blur using said added pixel data.

11. The digital camera as recited in claim 10, wherein said specifying means specifies pixels contained in a plurality of blocks of small area among all pixels of said image pick-up element during an exposure, wherein said read-out means reads out data of pixels contained in said plurality of blocks in said nondestructive manner during said exposure, wherein said memory stores a fixed pattern noise table concerning said pixels contained in said plurality of blocks, wherein said fixed pattern noise elimination means performs noise cancellation processing to said pixel data of said plurality of blocks obtained by reading out in said nondestructive manner with reference to said fixed pattern noise table, and wherein said adder adds pixel data from which said fixed pattern noise is

eliminated to said pixels contained in said plurality of blocks.

12. A blur-detection apparatus, comprising:

read-out means for reading out data of pixels in a nondestructive manner during an exposure, said pixels being contained in a block of small area among all pixels of an image pick-up element which can read out pixel data in a nondestructive manner;

fixed pattern noise elimination means for performing noise cancellation processing to pixel data of said block obtained by reading out in a nondestructive manner with reference to a table of a fixed pattern noise corresponding to pixels contained in said block;

an adder which adds pixel data from which said fixed pattern noise is eliminated to said pixels contained in said block; and
a detector for detecting a blur by using said added pixel data.

13. The blur-detection method as recited in claim 14, wherein said read-out means reads out data of pixels in a nondestructive manner during an exposure, said pixels being contained in a plurality of blocks of small area among all pixels of an image pick-up element which can read out pixel data in a nondestructive manner, wherein said fixed pattern noise elimination means performs noise cancellation processing to pixel data of said plurality of blocks obtained by reading out in a nondestructive manner with

reference to a table of a fixed pattern noise corresponding to pixels contained in said plurality of blocks, and wherein said adder adds pixel data from which said fixed pattern noise is eliminated to said pixels contained in said plurality of blocks.

14. A blur-detection method, comprising:

a step for reading out data of pixels in a nondestructive manner during an exposure, said pixels being contained in a block of small area among all pixels of an image pick-up element which can read out pixel data in a nondestructive manner;

a step for performing noise cancellation processing to pixel data of said block obtained by reading out in a nondestructive manner with reference to a table of a fixed pattern noise corresponding to pixels contained in said block;

a step for adding pixel data from which said fixed pattern noise is eliminated to said pixels contained in said block; and

a step for detecting a blur by using said added pixel data.

15. The blur-detection method as recited in claim 14, wherein processing defined in each of said steps is subjected to pixel data contained in a plurality of blocks.